[10191/2197]

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s)	:	Alfred GOERLACH et al.
Serial No.	:	10/030,309
Filed	:	May 13, 2002
For	:	DIODE HAVING A METAL SEMICONDUCTOR CONTACT, AND METHOD FOR THE MANUFACTURE THEREOF
Examiner	:	Dana Farahani
Art Unit	:	2814
Confirmation No.	:	8784

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Date: 7/29/03 Reg. No. 32,490

Signature: Richard L. Mayer

Mail Stop Non-Fee Amendment
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AMENDMENT

S I R:

In response to the Office Action of June 13, 2003, kindly amend the above-captioned application as follows:

IN THE CLAIMS:

Please cancel, without prejudice, claims 17 and 22 to 32.

Please amend claims 18 o 21, without prejudice, as follows:

18. (Amended) A diode, comprising:

a semiconductor substrate arranged between a first metallic electrode and a second metallic electrode, the substrate highly doped in a first zone to form an ohmic transition to the first electrode and weakly doped in a second zone to form a rectifying transition to the second electrode;

wherein the first zone and the second zone are separated by a third zone of the semiconductor substrate doped more weakly than the second zone, the first zone, the second zone and the third zone having a same conductivity type, the second zone enclosed between the second electrode and the third zone; and

wherein a breakdown voltage between the second electrode and the third zone is at least three times as great as a breakdown voltage between the second electrode and the second zone.

19. (Amended) A diode, comprising:

a semiconductor substrate arranged between a first metallic electrode and a second metallic electrode, the substrate highly doped in a first zone to form an ohmic transition to the first electrode and weakly doped in a second zone to form a rectifying transition to the second electrode;

wherein the first zone and the second zone are separated by a third zone of the semiconductor substrate doped more weakly than the second zone, the first zone, the second zone and the third zone having a same conductivity type, the second zone enclosed between the second electrode and the third zone; and

wherein the second zone is raised over a surface of the third zone, and the second electrode covers the second zone in a hat shape that includes a circumferential rim that touches the third zone.

20. (Amended) A diode, comprising:

a semiconductor substrate arranged between a first metallic electrode and a second metallic electrode, the substrate highly doped in a first zone to form an ohmic transition to the first electrode and weakly doped in a second zone to form a rectifying transition to the second electrode;

wherein the first zone and the second zone are separated by a third zone of the semiconductor substrate doped more weakly than the second zone, the first zone, the second zone and the third zone having a same conductivity type, the second zone enclosed between the second electrode and the third zone; and

wherein the second zone is planar and island-type on a surface of the third zone, and the second electrode is flat and touches the third zone in an edge region.

21. (Amended) A diode, comprising:

a semiconductor substrate arranged between a first metallic electrode and a second metallic electrode, the substrate highly doped in a first zone to form an ohmic transition to the first electrode and weakly doped in a second zone to form a rectifying transition to the second electrode, the first zone and the second zone